IN THE CLAIMS

Please amend the claims as follows:

1.   (Currently Amended) A network for detecting biological agents, the network comprising:

a plurality of sensors for detecting agents in an area and generating a signal comprising ~~with~~ a probability of accuracy;

a controller communicatively coupled to the sensors for receiving the signals~~information~~ from the sensors wherein the controller utilizes an evidence accrual method to combine probabilities of detection provided by the sensors to determine whether such agents are a threat with a greater probability than any individual sensor.

2.   (Original) The network of claim 1 wherein the sensors are selected from the group consisting of trigger sensors, Lidar, mass spectrometer, antibody, and PCR detectors.

3.   (Original) The network of claim 1 wherein the controller comprises multiple controllers.

4.   (Original) The network of claim 3 wherein the controllers comprise multiple integrating controllers coupled to different sets of sensors, and an operating controller coupled to the integrating controllers.

5.   (Original) The network of claim 4 wherein the number of integrating controllers is variable to cover and protect areas of diverse size.

6.   (Original) The network of claim 4 wherein a set of sensors coupled to one integrating controller at least partially overlaps a set of sensors coupled to another integrating controller to provide verification or fault tolerance.

7.   (Original) The network of claim 1 wherein the sensors are selected from the group consisting of early warning, broadband and specific sensors.

8.   (Original) The network of claim 1 wherein information from sensors not targeted for a specific threat is used to help identify such specific threat.

9.   (Original) The network of claim 1 wherein the evidence accrual method comprises a Bayesian net.

10.   (Currently Amended) A network for detecting biological agents, the network comprising:

        a plurality of sensors for detecting agents in multiple areas and generating a signal comprising with a probability of accuracy;

        a plurality of integrating controllers communicatively coupled to selected groups of sensors protecting each area for receiving the signals information from the sensors to determine whether such agents are a threat to a respective area with a greater probability than any individual sensor; and

        an operating controller that receives information propagated to it from the integrating controllers and performs data fusion to determine a final decision for the entire area under protection wherein the operating controller comprises an evidence accrual method for performing the data fusion.

11.   (Original) The network of claim 10 wherein each integrating controller comprises a Bayesian net for determining whether such agents are a threat to the area it protects.

12.   (Original) The network of claim 10 wherein the evidence accrual method comprises a Bayesian net.

13.   (Currently Amended) A network for detecting biological agents in a building, the network comprising:

        a plurality of different types of sensors for detecting biological agents in the building and generating a signal comprising a probability of detection of a biological agent, wherein the

sensors are placed at different locations within the building based on the characteristics of the sensor;

a controller communicatively coupled to the sensors for receiving information from the sensors to determine whether an agent threat exists for the space.

14.   (Original) The network of claim 13 wherein at least one sensor is monitoring threats external to the building.

15.   (Original) The network of claim 14 wherein the at least one sensors comprises a Lidar.

16.   (Currently Amended) A method of detecting chemical and biological agent threats using a diverse network of sensors, the method comprising:

collecting information from sensors comprising regarding the conditional probability of detection of biological agents, wherein one or more controllers collects information from all the sensors in the diverse network;

combining the conditional probabilities of detection information from individual the sensors via the one or more controllers to increase the accuracy of the overall probability of the detection of a threat.

17.   (Original) The method of claim 16 wherein the sensors are selected from the group consisting of FLAPS, Lidar, mass spectrometer, antibody, and PCR detectors.

18.   (Original) The method of claim 16 wherein the information from the sensors is combined utilizing a Bayesian net to combine conditional probabilities of detection provided by the sensors.

19.   (Original) The method of claim 16 wherein the sensors are selected from the group consisting of early warning, broadband and specific sensors.

20.   (Original) The method of claim 16 wherein information from sensors not targeted for a specific threat is used to help identify such specific threat.

21.   (Currently Amended) A method of designing a network for detecting threats from biological and chemical agents, the method comprising:

    determining a probability of detection for <u>each of</u> multiple sensors for a given threat;

    generating an algorithm for decision fusion for each of multiple local groups of sensors; and

    generating an algorithm for decision fusion for a combination of the multiple local groups of sensors.

22.   (Original) The method of claim 21, wherein the algorithm comprises a Bayesian net.

23.   (Original) The method of claim 21 and further comprising:

    creating different combinations of local and combined groups of sensors;

    determining the performance of each of the different combinations; and

selecting an optimal combination based on the performance of the different combinations.